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ABSTRACT

Patterns of attachment in preschool-age children were investigated in a nonexperimental, naturally occurring stressful situation. The sample included 86 families with at least one child 18 to 54 months of age. In each family, the mother planned to deliver another child in a hospital birthing center. Separation from the mother during admission was found to elicit a stress response from the child. When the child was reunited with the mother, a detailed description of the child's behavior was recorded and scored on Ainsworth's four interactive behavior rating scales. An attachment pattern was then determined. A total of 49 children were categorized as securely attached, 4 as resistant, and 33 as avoidant. The relative proportions of securely attached and anxiously attached preschoolers were similar to those reported in most studies of middle class American children. However, a much higher than usual proportion of avoidant responses was found among the anxiously attached, suggesting that anxiously attached children may be particularly vulnerable to the high stress associated with sibling birth. The child's behaviors toward the newborn were observed; securely attached children were consistently more positive in their responses than those seen as less securely attached. The data supported the premise that attachment patterns can be validly assessed in a naturally occurring strange situation involving preschool children. (Author/RH)

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# THE ASSESSMENT OF ATTACHMENT IN A NATURALLY OCCURING STRANGE SITUATION

BY

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Patterns of attachment in pre-school age children were investigated using a non-experimental naturally occuring stressful situation. The sample included 86 families with at least one child age 18 to 54 months whose mother planned to deliver her infant in a hospital birthing center. All family members were allowed to be with the mother during her labor and delivery. Separation of the child from the mother during admission was found to illicit a stress response from the child. After the admission, when the child was reunited with the mother, a detailed description of his or her behavior was recorded during a 15 minute period. This description was then scored on Ainsworth's four interactive behavior rating scales, and attachment pattern was then determined. Of the 86 children in the study, 49 (or 57%) were categorized as securely attached, 4 as resistant, and 33 as avoidant. The relative proportions of securely attached and anxiously attached pre-schoolers are similar to those reported in most middle class American infant studies. Among the anxiously attached children, however, there is a much higher than usual proportion of avoidant responses, suggesting that anxiously attached children may be particularly vulnerable to the high stress associated with birth.

An attempt was made to validate this procedure by examining the relationship of the child to his or her newborn sibling in the first two weeks postpartum. The child's behaviors toward the newborn were observed and as would be predicted from attachment theory, securely attached children were consistently more positive in their responses. The data support the premise that attachment patterns can be validly assessed in a naturally-occuring strange situation in pre-school children.

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## THE ASSESSMENT OF ATTACHMENT IN A NATURALLY OCCURING STRANGE SITUATION

The pattern of attachment in pre-school age children were investigated using a non-experimental, naturally occuring, strange situation. The research was conducted in a naturalistic setting--a large suburban Birthing Center. The Birthing Center allows toddlers and young children to observe the birth of the new sibling. These children are allowed as much participation as the parents deem appropriate. There is no upper or lower age limit for the experience. The Birthing Center only has two requirements: (1) the child and an adult support person for the child other than parents must attend preparation classes that deal with the occurrences during the birth experience, and (2) the child must be accompanied by that adult support person to the birth.

The Birthing Center is set up physically to be as close to the home environment as possible. There are three rooms in each suite. These include a bedroom with a queen sized bed, a television, and several recliners; a family room with a couch, a television, easy chairs, a dining set, toys; and, a bathroom connecting the two.

The family is admitted initially to the Birthing Center as a unit. The child and the support person are then asked to go the the family room while the mother and the father are admitted. The admission procedure takes approximately 20 minutes. The children are then allowed back into the room with the parents. The observations needed to classify Security of Attachment were made during this naturally-occuring reunion. Additional data were collected during telephone calls and home visits that are a routine part of the Birthing Center procedure.

All of the families included a male member who was present at the birth of the new baby. The fathers in the sample ranged in age from 22 to 45 years with a mean age of 30 years. The mothers ranged in age from 20 to 40 years with a mean age of 28 years. The youngest sibling in the study was 17 months and the oldest was 54 months. The mean age was 29 months. Over half of the siblings in the study were 1½ to 2 years; and 75% were under 3 years.

Male children outnumbered female children 53 to 33. Most of the families had either one or two children although the family size ranged from one to five children. Forty six percent of the newborns were male and 54% were female.

Of the 86 children in the study, 27 (32%) were present at the birth of the new sibling, 26 (30%) were in the next room during the actual birth and came into the room after the sibling was born, and 33 (38%) came with the parents to the center but then returned home to await the birth of the new sibling.

Procedure for the assessment of attachment

1. Mother, father, and sibling with support person arrive at the Birthing Center when the mother is in labor.
2. The pre-school age child or children are separated from the mother during the admission procedure. This period lasts approximately 20 minutes. During this time the child is with a family friend or relative in the next room.
3. The child is reunited with the mother and his/her behavior is observed by a trained observer. Observers were at least BSN prepared and were working on Masters in nursing degrees. Observations of the reunion episodes were written by the observer following the observation.
4. Description of the reunion episodes were scored independently using Ainsworth's four interactive behavior scales. Interrater reliability for the four behavior scales in the present study ranged as follows: Proximity and contact seeking behaviors, .90 to .93; Contact maintaining behaviors, .85 to .97; Contact resisting behaviors, .88 to .96; and Contact avoidance, .92 to .93.
5. The four interactive behaviors were used to classify the children into Ainsworth's "A", "B", and "C" groups. This classification was performed independently by two raters who have established reliability with E.Waters, an accepted expert in the classification scheme.

Typical behaviors of the avoidant child included: standing at the door and not approaching the mother, staying close to the relative, and averting gaze when spoken to by the mother. Typical resistant behaviors included

pushing the parent away when approached or negative angry responses to questions. Typical positive responses included verbal or physical contact with the mother and then amusing the self by playing with toys.

Attachment Patterns

| | |
|---|---|
| Securely attached | 49 or 57% |
| Insecure Resistant | 4 or 5% |
| Insecure Avoidant | 33 or 38% |

N=86

*Interrater Agreement was 95%

Birth Participation was operationalized by looking at the location of the child during the actual birth. This was determined by the parents. Some parents chaned their minds as to the best location for their child as the labor progressed, therefore, the actual location of the child at the time of the sibling's birth was not ascertained until the actual event. The observors who described the child's behavior during the reunion did not know the birth participation category.

Sibling interaction was assessed through phone contact with the mother and through direct observation by a data collector. The Sibling Interaction Scale (SIS) was used for this assessment. The instrument was adapted from an interview protocol by Anderson and Brown (1979) and pretested prior to this study. The SIS was divded into three subscales: Participative; Regressive; and Aggressive.

Procedure for the assessment of the siblings' reaction to the newborn.

1. The mother, father, and sibling and the new infant are discharged from the Birthing Center within 24 hours of the new infants' birth.
2. The mother is contacted by phone on the second day following discharge fromthe Birthing Center. The SIS is administered by telephone by a birthing center staff member along with the other questions normally asked of the families who participate in the Birthing Center program.
3. The mother's perception of the sibling's responses to the newborn are verifed by direct observation of a nurse during the usual home visit on the third post-partum day. The mother is again asked the questions on the SIS.
4. Two weeks after the family is discharged from the Birthing Center, the SIS is again administered during a telephone conversation with the mother.

5. Correlations between the mother's and the nurse observer's independent ratings were as follows: for the participation subscale, $r$ + .78; for the regression subscale, $r$ = .75; and for the aggression subscale, $r$ = .89.

Conclusions

1. Although the Ainsworth "strange situation: is not valid after age 2, attachment pattern can be validly assessed by observing the child's response to the mother in a naturally occuring stressful situation.
2. The relative proportions of securely attached and anxiously attached preschoolers are similar to those reported in most middle class, American infant sutdies. There is a higher than usual proportion of avoidant responses, suggesting that anxiously attached children may be particularly vulnerable to the high stress associated with childbirth.
3. As would be predicted from Attachment Theory, securely attached children were more consistently positive in their responses to the new infant.

SUMMARY TABLE OF SIBLING INTERACTION AND SECURE ATTACHMENT

| | SECURE ATTACHMENT | | |
|---|---|---|---|
| | Mean Square | df | F-Ratio |
| SIBLING INTERACTION BEHAVIOR | | | |
| Positive Response | 25.37 | 1,80 | 27.23** |
| Immature Response* | 71.40 | 1,80 | 53.48** |
| Aggressive Response* | 21.49 | 1,80 | 39.02** |

*Negative behaviors are reverse scored

**$p < .001$